**Perspective**

The science-policy interface: the role of scientific assessments—UK National Ecosystem Assessment

R. T. Watson

**Comments**

Comment on ‘A depolarizer as a possible precise sunstone for Viking navigation by polarized skylight’ by G. Ropars, et al.

D. Burch

**Research articles**

Frequency response of ice streams

C. R. Williams, P. C. A. Hindmarsh & R. J. Arthern

Modelling the influence of antifreeze proteins on three-dimensional ice crystal melt shapes using a geometric approach

J. Li, Y. Qin, M. R. Zhao, Y. Cui & J. S. Wittbauer & J. J. Bravard

Self-equilibrium and super-stability of truncated regular polyhedral tensegrity structures: a unified analytical solution

L.-Y. Zhang, Y. Li, Y. F. Cai, X.-G. Feng & H. Gao

Moving boundary problems governed by anomalous diffusion

C. J. Ying, M. J. Melia & A. M. Davis

A quantum bottle of the outer cellular automation

J. Avron-Saric

An exact solution describing slow axonal transport of cytoskeletal elements: the effect of a finite half-life

A. V. Kotnik

Mean-field evolution of open quantum systems: an exactly solvable model

M. Harsh & C. P. Benemann

An efficient shock capturing scheme for multiphase flows in porous media

D. E. Fontes, S. I. L. Sovran, P. Moncorgé & M. Nakhla

Compact acoustic travelling waves in a class of fluids with nonlinear material dispersion

T. M. Jordan & C. Saccomandi

Vibration and building analysis of a piezoelectric nanoplate considering surface effects and in-plane constraints

Z. Yan & L. J. Yang

Radiocarbon (AMS) dating of archaeological pottery

M. A. Wilson, A. Hamilton, C. Ince, M. A. Carter & C. Hall

Overrotting of solitary waves and solitary lines on a plane beach

T. Raab, D. Peiris & A. J. Hogg

Do dolphins benefit from nonlinear mathematics when processing their sonar returns?

T. C. Lightfoot, C. H. Chua & P. R. White

Modelling the mechanical response of anisotropic materials subject to a change in relative humidity

R. Ule, R. B. Wilkinson, I. A. Young, A. E. Brathy & P. D. Bald

Tool durability maps for friction stir welding of an aluminium alloy

T. Dediček, A. R. H. D. R. Bhakadha, V. D. Markov & A. Anura

Proof of principle study of ultrasonic particle manipulation by a circular array device

A. Cornette, P. D. Wilcox, C. R. P. Courtney & W. DeLisio

Supersolution phenomena in 3D(1)

T. Awanou, P. Colombo, S. Nasonov, I. Meseri, D. C. Struppa & T. Jelisic

Effects of the impact of a low temperature nitrogen jet on metallic surfaces

H. S. Lin, C. F. Laus, D. Entrepeny, V. Janczak, R. Fries & A. Taiti

The effect of non-uniform damping on flutter in axial flow and energy-harvesting strategies

A. Singh, T. Nichols & F. de Lango

Sharp bounds on enstrophy growth in the viscous Burgers equation

D. Polaczyk

Estimating eigenvalues of dynamical systems from time series with applications to predicting cardiac alternans

A. Pinto & S. Zhao

Accumulation of a light non-aqueous phase liquid on a flat barrier baffling a descending groundwater flow

A. R. Karimi & Yu. V. Obnosov

Existence of affine realizations for Lévy term structure models

T. Tajmar

Upscaled phase-field models for interfacial dynamics in strongly heterogeneous domains

M. Schmuck, M. Pradas, G. A. Pavliotis & S. Kalliadasis

Microstructural level response of HMX–Estane polymer-bonded explosive under effects of transient stress waves

A. Baner, P. Hone & M. Zhou